

# **SANYO AIR CONDITIONING PRODUCTS**

## **DUCTLESS SPLIT SYSTEM AIR CONDITIONERS & HEAT PUMPS**

### **SPECIFICATIONS - SECTION 15700**

**Covers Sanyo System Models > 18XS52, 18XLS52 (See plans for specified models & details)**

### **DUCTLESS SPLIT SYSTEM AIR CONDITIONERS - RECESSED CEILING MOUNT**

#### **1) GENERAL SPECIFICATIONS**

Furnish & install a Sanyo manufactured Ductless, Split System Air Conditioner(s) consisting of an indoor recessed ceiling mounted evaporator/blower section with four (4) way airflow & matching outdoor condensing section. System(s) shall bear the ARI label showing that the system(s) is ARI 210 or 240 & 270 Certified. Systems shall be listed by ETL Testing Laboratories and bear the ETL label. Matching systems shall meet or exceed the minimum, Federally mandated Seasonal Energy Efficiency Rating (SEER) of 10, as certified by the ARI testing programs. System(s) indoor & outdoor units will operate at sound levels equal to or below specified system(s) (see plans). Installation & Owners Manuals shall be provided with each system.

Matching indoor & outdoor sections shall be connected by deoxidized, annealed refrigerant copper tubing, type "L", cleaned & capped. All systems shall have flared refrigeration connections on both indoor & outdoor sections. Size & insulate tubing according to manufacturer's specifications.

System(s) indoor & outdoor sections shall be completely factory assembled & wired, with a pre-charge of refrigerant. A single power source shall provide voltage to both the outdoor & indoor units. Electrical wire & connections to outdoor section, and between indoor & outdoor section(s), shall be sized, installed & grounded by the installer in conformance with the National Electrical Code (N.E.C.), local codes, as well as, manufacturer's instructions.

System(s) shall be equipped with a microprocessor control system, utilizing an infrared remote controller with LCD display that provides access to all system functions, and transmits room conditions & programs to the indoor microprocessor every 3 minutes. Infrared remote controller shall be capable of operating system mounted up to 26' from the indoor section, according to manufacturer's recommendations & instructions. System(s) shall have the capability of continuous operation in the case of a lost or damaged remote controller, utilizing a factory installed, integral manual switch in conjunction with the system microprocessor.

**1A) System Infrared Remote Controller Functions** will include: system mode selection, programmable temperature control, 24 hour programmable timer, one (1) hour off timer, automatic three (3) speed indoor fan speed control, constant fan speed selection, night setback mode, automatic sweep/flap control, user selectable room temperature sensor located on either infrared remote controller or indoor unit, multiple system control using a single controller.

**1B) System Features** will include: Sanyo high efficiency, rotary compressor, with suction line accumulator, cap tube refrigerant control, light duty condensate pump, indoor coil freeze protection, built-in auto restart after power failure, short cycle time delay, low ambient cooling operation to zero degrees outdoor air temperature (selected systems), automatic indoor fan speed, washable anti-mold poly filters, indoor mounted operation selector & lamp showing operation, standby & timer modes, with start up test mode & manual on/off switch.

**Low Ambient System(s)** shall be capable of operating in the cooling mode down to zero (0) degrees F. outdoor temperature.

### **1C) INSTALLATION**

System(s) shall be installed according to manufacturer's instructions & recommendations, as well as, all governing local & national codes. System(s), as well as the infrared remote controller, shall be mounted & placed as shown on plans within all minimum clearances as specified by manufacturer's instructions, & secured to provide for safe operation. Refrigerant tubing size shall not vary from manufacturer's specifications, and shall be properly secured & insulated. Installer shall insulate both liquid & suction lines individually. Electrical wiring shall be sized & installed according to manufacturer's instructions & in conformance with the National Electric Code (NEC) & local codes. Outdoor condensers shall be mounted & secured to accommodate for extreme weather conditions. Distance between indoor & outdoor unit(s) shall not exceed manufacturer's specifications.

### **2) OUTDOOR CONDENSING SECTION – SANYO MODELS – C1852, CL1852**

Outdoor condensing section(s) shall be factory assembled, wired, piped & pre-charged with a start up amount of R-22 refrigerant. Unit(s) shall be constructed of G90 galvanized steel with corrosion inhibiting, powder coated paint. Unit(s) shall be furnished with a high efficiency, Sanyo rotary compressor with internal overload protection, securely mounted with vibration isolators to reduce noise & vibration. Condenser coil heat exchanger shall be constructed of nonferrous, rifled copper tubing with enhanced aluminum slit fins mechanically bonded to the copper. A suction line accumulator, a coil temperature sensor & cap tube metering device shall be factory installed. Fan motor(s) shall be direct drive with internal overload protection, permanent lubrication, with propeller type fans, mounted for horizontal air discharge. Brass valves with refrigeration flare connections & flare nuts, & service ports shall be factory mounted, externally for easy access. The unit(s) shall be test started by the manufacturer at their factory prior to shipment for installation.

**Low Ambient** outdoor section(s) shall contain a printed circuit board, factory mounted & wired, to assist in control of low ambient operation. Unit(s) shall be able to operate in the A/C mode down to zero (0) degrees Fahrenheit outdoor temperature. A factory installed 20 watt crankcase heater shall provide additional compressor protection.

### **3) INDOOR EVAPORATOR SECTION – SANYO MODELS – XS1852**

Indoor section(s) shall be recessed ceiling mount type, with four (4) way airflow, factory assembled & wired. Ceiling mounting diagram shall be included with each system. Unit(s) shall contain an evaporator heat exchanger constructed of nonferrous, rifled copper tubing with enhanced aluminum slit fins, mechanically bonded to the copper. A single turbo type blower wheel, statically & dynamically balanced shall be attached to a single direct drive, PSC fan motor,

with overload protection, permanent lubrication & multi-speed capability. Unit(s) shall contain a Printed Circuit Board (PCB) with a control circuit fuse & microprocessor, factory wired & mounted, that receives & processes all commands & transmissions from the system Infrared Remote Controller. Indoor unit(s) shall also contain an Operation Switch with visible lamps for operation, standby & timer functions, as well as, a system test switch & a manual ON/OFF switch. Unit(s) shall contain an air sensor thermistor, a coil freeze safety thermistor to prevent freeze-up, a factory installed light-duty condensate drain pump, drain pan, hose & fitting, and refrigeration line connections with flare nuts.

Indoor section shall be provided with a factory assembled concentric supply & return air grille with a motorized louver/flap on each of the four (4) supply air openings. Motorized louvers/flaps, controlled by the infrared remote controller, shall provide automatic, full oscillating supply airflow, as well as being capable of being placed in a set, stationary position. Up to two (2) of the supply air openings may be closed for ceiling perimeter or corner mounting, and to utilize alternate plenum supply air option. Indoor Unit(s) will be furnished with an in-ceiling plenum, which surrounds the evaporator coil section. Plenum shall contain alternate supply air knockout(s) to allow for ducted airflow to a separate room. Unit(s) shall be capable of utilizing fresh, outside air up to a maximum of 20% of the rated CFM of the system, with the field installed, optional Fresh Air Intake Chamber manufactured by Sanyo. Unit(s) shall be furnished with long life (2,500 hour), anti-mold, poly type washable air filters that can be easily removed without removing indoor unit casing. Indoor unit(s) shall be powered by voltage from the matching outdoor unit(s).

#### **4) AVAILABLE SANYO ACCESSORIES – Recessed Ceiling Mount Models**

Insulated Copper Line Sets, Condensate Pumps, Outdoor Section Wall Mounting Bracket, Hard Wired Remote Controller, and Fresh Air Intake Chamber.